From the INTERNATIONAL SEARCHING AUTHORITY

To: BRIAN M. DUGAN DUGAN & DUGAN,PC 245 SAW MILL RIVER ROAD SUITE 309 HAWTHORNE, NY 10532	PCT  NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION		
	(PCT Rule 44.1)		
	Date of mailing (day/month/year)		
Applicant's or agent's file reference	FOR FURTHER ACTION See paragraphs 1 and 4 below		
11855/PCT			
International application No. PCT/US2008/001589	International filing date (day/month/year) 05 February 2008		
Applicant .  APPLIED MATERIALS, INC.			
The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.  Filling of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46): When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.  Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Faesimile No.: +41 22 740 14 35 For more detailed instructions, see the notes on the accompanying sheet.  2. The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.  3. With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:  the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.  no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.  4. Reminders  Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis. 1 and 90bis. 3, respectively, before the completion of the technical preparations for international publication.  The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The Interna			
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents	Authorized officer: Blaine R. Copenheaver		
P.O. Box 1450, Alexandria, Virginia 22313-1450	Talankone No. 571-272-7774		

Telephone No.

571-272-7774

Form PCT/ISA/220 (January 2004)

Facsimile No. 571-273-3201

(See notes on accompanying sheet)

From the INTERNATIONAL SEARCHING AUTHORITY

To: BRIAN M. DUGAN DUGAN & DUGAN,PC 245 SAW MILL RIVER ROAD SUITE 309 HAWTHORNE, NY 10532	PCT  NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT AND THE WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY, OR THE DECLARATION	
	(PCT Rule 44.1)	
	Date of mailing (day/month/year) 0 3 JUL 2008	
Applicant's or agent's file reference	FOR FURTHER ACTION See paragraphs 1 and 4 below	
11855/PCT	FOR FORTHER ACTION See paragraphs 1 and 1 octon	
International application No. PCT/US2008/001589	International filing date (day/month/year) 05 February 2008	
Applicant .  APPLIED MATERIALS, INC.		
AFFEIED MATERIALS, INC.		
The applicant is hereby notified that the international search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.  Filing of amendments and statement under Article 19: The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46): When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.  Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes 1211 Geneva 20, Switzerland, Fassimile No.: +41 22 740 14 35 For more detailed instructions, see the notes on the accompanying sheet.  The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.  With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that: the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.  no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.  Reminders  Shortly after the expiration of 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis. 1 and 90bis. 3, respectively, before the completion of the technical preparations for international pureau as provided in Rules 90bis. 1 and 90bis. 3, respectively, before the completion of the technical preparations for international fureau as provided in Rules 90bis. 1 and 90bis. 3		
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US	Authorized officer:	
Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450	Blaine R. Copenheaver	

Facsimile No. 571-273-3201

571-272-7774

Telephone No.

## **PCT**

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No.	International filing date (day/mo	onth/year) (Earliest) Priority Date (day/month/year)
PCT/US2008/001589		
Applicant		
APPLIED MATERIALS, INC.		
according to Article 18. A copy is bein  This international search report consists  It is also accompanied by  I. Basis of the report  a. With regard to the language, th  the international app  a translation of the internation of the internation furn  b. With regard to any nucleon	g transmitted to the International less of a total of sheets.  a copy of each prior art document  e international search was carried olication in the language in which international application into ished for the purposes of international	out on the basis of: it was filed, which is the language ional search (Rules 12.3(a) and 23.1(b)) e disclosed in the international application, see Box No. 1.
<ul><li>3. Unity of invention is lact</li><li>4. With regard to the title,</li></ul>	king (see Box No. III)	
the text is approved as su	bmitted by the applicant	
the text has been establish	ned by this Authority to read as fo	llows:
5. With regard to the abstract, the text is approved as su the text has been establis may, within one month fr	hed according to Rule 38 2(b) by	this Authority as it appears in Box No. IV. The applicant remational search report, submit comments to this Authority
as suggested by the	Authority, because the applicant f	failed to suggest a figure
	Authority, because this figure bett be published with the abstract	ter characterizes the invention

## INTERNATIONAL SEARCH REPORT

International application No. PCT/US2008/001589

IPC(8) - H01L 21/00 (2008.04)					
USPC - 414/940 According to International Patent Classification (IPC) or to both national classification and IPC					
	OS SEARCHED				
IPC(8) - H01	cumentation searched (classification system followed by c L 21/00 (2008.04) 217, 331, 331.18, 940	lassification symbols)			
Documentatí	on searched other than minimum documentation to the exte	ent that such documents are included in the	fields searched		
	Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBase, Google Patents				
C. DOCUI	MENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where app	propriate, of the relevant passages	Relevant to claim No.		
Х	EP 1,450,393 A2 (RICE et al) 25 August 2004 (25.08.20	004) entire document	1-4		
Α	US 20060190118 A1 (TEFERRA et al) 24 August 2006	(24.08.2006) entire document	1-4		
Α	US 6,955,197 B2 (ELLIOTT et al) 18 October 2005 (18.10.2005) entire document		1-4		
А	US 2005/0125089 A1 (PURI et al) 09 June 2005 (09.06	1-4			
А	US 2005/0273190 A1 (DUFFIN et al) 08 December 2005 (08.12.2005) entire document		1-4		
А	US 6,082,951 A (NERING et al) 04 June 2000 (04.06.2000) entire document		1-4		
А	US 2006/0182531 A1 (SHAH et al) 17 August 2006 (17.08.2006) entire document		1-4		
Further documents are listed in the continuation of Box C.					
"A" docum	categories of cited documents; ent defining the general state of the art which is not considered	"T" later document published after the inter date and not in conflict with the applic	cation but cited to understand		
to be o "E" earlier	f particular relevance application or patent but published on or after the international	"X" document of particular relevance; the considered novel or cannot be considered.	claimed invention cannot be		
"L" docum	ent which may throw doubts on priority claim(s) or which is o establish the publication date of another citation or other	step when the document is taken alone  "Y" document of particular relevance: the	claimed invention cannot be		
special	reason (as specified) ent referring to an oral disclosure, use, exhibition or other	considered to involve an inventive	step when the document is documents, such combination		
"P" docum	ent published prior to the international filing date but later than ority date claimed	<del>**</del>			
	actual completion of the international search	Date of mailing of the international sear	ch report		
04 June 20	80	03 JUL 2008			
	Name and mailing address of the ISA/US Authorized officer:				
Mail Stop PC P.O. Box 14	CT, Attn: ISA/US, Commissioner for Patents 50, Alexandria, Virginia 22313-1450	Blaine R. Copenhe PCT Helpdesk: 571-272-4300	eavei		
1	No. 571-273-3201	PCT OSP: 671-272-7774			

#### From the INTERNATIONAL SEARCHING AUTHORITY

To: BRIAN M. DUGAN DUGAN & DUGAN,PC 245 SAW MILL. RIVER ROAD SUITE 309 HAWTHORNE, NY 10532		WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY  (PCT Rule 43bis.1)			
			Date of mailing (day/month/year)	03 JUL	2008
Applicant's or agent's file reference		FOR FURTHER ACTION			
11855/PC	Γ	·	See paragraph 2 below		
	application No.	International filing date	(day/month/year)	Priority date (a	lay/month/year)
PCT/US20		05 February 2008		05 February	2007
IPC(8) - H USPC - 4 Applicant	International Patent Classification (IPC) or both national classification and IPC IPC(8) - H01L 21/00 (2008.04) USPC - 414/940 Applicant APPLIED MATERIALS, INC.				
1. This op	inion contains indications rel	ating to the following iter	ns:		
Box No. 1 Basis of the opinion					
Box No. II Priority					
Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability					
	Box No. IV Lack of unity				
Box No. V  Reasoned statement under Rule 43bis. I(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement					
	Box No. VI Certain documents cited			:	
	Box No. VII Certain defect	s in the international app	lication		
	Box No. VIII Certain observations on the international application				
<ol> <li>FURTHER ACTION  If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.  If this opinion is, as provided above, considered to be a written opinion of the IPEA; the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.  For further options, see Form PCT/ISA/220.</li> <li>For further details, see notes to Form PCT/ISA/220.</li> </ol>					
Name and r	nailing address of the ISA/US	Date of completion of	this opinion	Authorized	
Commissione	T, Attn: ISA/US er for Patents	04 June 2008			Staine Copenheaver
1 P.O. Box 145	0, Alexandria, Virginia 22313-145	۷Į		PCT Helpdesk: 57	1-272-4300

Facsimile No. 571-273-3201 PCT OSP: 571-272-7774

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2008/001589

Box	No. I	Basis of this opinion
1	With regs	ard to the language, this opinion has been established on the basis of:
١.		e international application in the language in which it was filed.
		translation of the international application into which is the language of a anslation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2.	T to	his opinion has been established taking into account the rectification of an obvious mistake authorized by or notified this Authority under Rule 91 (Rule 43bis.1(a))
3.	With rega	ard to any nucleotide and/or amino acid sequence disclosed in the international application, this opinion has been and on the basis of:
	a. type o	of material
		a sequence listing
		table(s) related to the sequence listing
	b. forma	at of material
		on paper
		in electronic form
	c. time	of filing/furnishing
		contained in the international application as filed
		filed together with the international application in electronic form
		furnished subsequently to this Authority for the purposes of search
4.		n addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5.	Addition	nal comments:
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## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2008/001589

Stateme	nı			
Nove	eity (N)	Claims	1-4	YE
		Claims	None	NO NO
Inve	ntive step (IS)	Claims	None	YE
ž,	• • •	Claims	1-4	NO
Indu	strial applicability (IA)	Claims	1-4	YE
	Claims	None	NO	
	strial applicability (IA)	Claims		

Claims 1-4 lack an inventive step under PCT Article 33(3) as being obvious over Rice et al. (nereinater referred to as Artice). Referring to claim 1, Rice discloses a system comprising: an equipment front end module (EFEM) designed for use with a large lot substrate carrier (see Para. [0033] describing an equipment front end module for a large lot substrate carrier being used with a small lot substrate carrier) and having a large lot loadport envelope (as discussed below, an EFEM for a large lot substrate carrier must include a large lot loadport working envelope); and a small lot loadport configuration (small lot size fabrication facility 200) having a plurality of small lot loadports (carrier opening devices 210) adapted to be coupled to the EFEM (see Para. [0033] describing an equipment front end module for a large lot substrate carrier being used with a small lot substrate carrier), wherein each small lot loadport (carrier opening devices 210) is adapted to dock with a small lot substrate carrier (see Para. [0045] for the small lot size substrate carrier disclosed).

An envelope, as described by the applicant on Pg. 3, Ln. 24 through Pg. 4, Ln. 3, is the space traversed during movement of the loadport and EFEM robotics, as well as the space traversed by the substrate carrier in its normal range of motion to and from the loadport. Given that definition, in order for the large lot EFEM to work effectively and for the substrate to be processed, the large lot EFEM, disclosed by Rice in Para. [0033], its loadport (the end of the EFEM that receives the substrate carrier), and the substrate carrier must traverse a SPACE during transfer of the substrate carrier from the large lot EFEM loadport to the small lot loadport of the processing tool. This space is the large lot EFEM loadport envelope. Similarly, the space traversed by the substrate carrier from the small lot loadport to the EFEM loadport, after the substrate has been processed, is the small lot loadport envelope. Therefore, it is inherent that both the large lot EFEM loadport and the small lot loadport have envelopes.

Rice does not explicitly teach the small lot loadport configuration has a combined envelope substantially similar to the large lot loadport envelope. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the small lot loadports disclosed by Rice in such a way that they each have a combined envelope substantially similar to the large lot loadport envelope, so that the large lot EFEM can be used with a small lot loadport without having to be modified.

Referring to claim 2, Rice discloses a substrate handling apparatus comprising: a small lot loadport configuration (SLLC) (small lot size fabrication facility 200) including a plurality of small tot loadports (carrier opening devices 210), each small lot loadport (carrier opening devices 210) adapted to dock with a small lot substrate carrier (see Para. [0045] for the small lot size substrate carrier disclosed); wherein the SLLC (small lot size fabrication facility 200) is adapted to be coupled to an equipment front end module (EFEM) designed for use with a large lot substrate carrier (see Para. [0033] describing an equipment front end module for a large lot substrate carrier being used with a small lot substrate carrier) and having a large lot loadport envelope (as discussed in Claim 1, an EFEM for a large lot substrate carrier must include a large lot loadport working envelope). Rice does not explicitly teach the small lot loadport configuration (SLLC) has a combined envelope substantially similar to the large lot loadport envelope. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the small lot loadport configuration (SLLC) disclosed by Rice in such a way that it has a combined envelope substantially similar to the large lot loadport envelope, so that the large lot EFEM can be used with a small lot loadport without substantial modifications.

(Continued in Supplemental Box)

#### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No. PCT/US2008/001589

Sup	plementa	l Box
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In case the space in any of the preceding boxes is not sufficient. Continuation of:

Referring to claim 3, Rice discloses a method comprising: docking of a small lot substrate carrier (see Para. [0045] for the small lot loadport (see Para. [0045] for the substrate transfer location disclosed) within a small lot loadport configuration (small lot size fabrication facility 200; also see Fig. 2) coupled to an equipment front end module (EFEM) designed for use with a large lot substrate carrier (see Para. [0033] describing an equipment front end module for a large lot substrate carrier being used with a small lot substrate carrier) and having a large lot loadport envelope (as discussed in Claim 1, an EFEM for a large lot substrate carrier must include a large lot loadport working envelope), where the small lot loadport configuration (small lot size fabrication facility 200; also see Fig. 2) includes a plurality of small lot loadports (see Para. [0045] for the substrate transfer location disclosed; also see Fig. 2 where each loadport is a transfer location, indicated by carrier opening devices 210) adapted to be coupled to the EFEM (see Para. [0033] describing an equipment front end module for a large lot substrate carrier being used with a small lot substrate carrier), where each lot loadport (see Para. [0045] for the substrate transfer location disclosed) is adapted to dock with a small lot substrate carrier (see Para. [0045] for the small lot size substrate carrier disclosed). Rice does not explicitly teach the small lot loadport configuration has a combined envelope substantially similar to the large lot loadport envelope. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the small lot loadport configuration disclosed by Rice in such a way that it has a combined envelope substantially similar to the large lot loadport envelope, so that the large lot EFEM can be used with a small lot loadport without

lot substrate carrier by the small lot loadport (carrier opening devices 210; in order for the substrate to be processed, the small lot substrate carriers must dock at a carrier opening device 210, which then opens the carriers and allows the substrates to be transferred to processing tools 204. In order to process additional substrates, the first small lot substrate carriers must be undocked, so that subsequent small lot substrate carriers can be docked at that same processing tool).

having to be modified. Referring to claim 4, the modified Rice discloses the method of claim 3, further comprising: undocking, opening and/or closing of the small Claims 1-4 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

## NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

## The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

- [Where originally there were 48 claims and after amendment of some claims there are 51]: "Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers, claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
- 2. [Where originally there were 15 claims and after amendment of all claims there are [1]: 'Claims I to 15 replaced by amended claims I to II.'
- [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding "Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
  - "Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
- [Where various kinds of amendments are made]: Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled, claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added.

## "Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

## It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

it should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

## Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

If a demand for international preliminary examination is made, the written opinion of the International Searching Authority will, except in certain cases where the International Preliminary Examining Authority did not act as International Searching Authority and where it has notified the International Bureau under Rule 66.1 bis(b), be considered to be a written opinion of the International Preliminary Examining Authority. If a demand is made, the applicant may submit to the International Preliminary Examining Authority a reply to the written opinion together, where appropriate, with amendments before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later (Rule 43bis. 1(c)).

# Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the PCT Applicant's Guide, Volume II.